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ABSTRACT

Participants at the First Statewide Legislative Symposium on Rural Development discussed environmental, land use, and natural resource problems and opportunities in rural areas of New York state. Identified as major assets were scenic beauty, diversified land use and economy, abundance and high quality of water, soil base for agriculture and forestry, forest covering 60% of the state, resilience of ecosystems, stabilization of fish and wildlife resources, and heightened public desire for environmental quality. Weaknesses included toxic and hazardous waste disposal, potential for rural areas to be used as dumping grounds undirected rural growth, urban orientation in state planning, undermanaged forest resources, and an insufficient resource management information base. Major goals suggested were to protect ground, air, soil, and water from waste disposal contamination; to develop energy sources in an environmentally and economically sound manner; and to enhance and protect the land resource base. Key public policy questions included how state and local governments will achieve sound management of environmental, land, and natural resources as the state develops; how public and private cooperation in these efforts will be enhanced; and how to ensure that local governments have the technical base to manage their resources. Supporting graphs and maps are appended. (NEC)

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ENVIRONMENT, LAND USE, AND NATURAL RESOURCES IN RURAL NEW YORK STATE: A PRELIMINARY REPORT

NEW YORK STATE LEGISLATIVE COMMISSION ON RURAL RESOURCES

SENATOR CHARLES D. COOK, CHAIRMAN

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RURAL FUTURES

LEGISLATIVE COMMISSION ON RURAL RESOURCES
STATE OF NEW YORK
(518) 455-2544

The Commission on Rural Resources was established by Chapter 428 of the Laws of 1982, and began its work February, 1983. A bipartisan Commission, its primary purpose is to promote a state-level focus and avenue for rural affairs policy and program development in New York State.

The Commission provides state lawmakers with a unique capability and perspective from which to anticipate and approach large-scale problems and opportunities in the state's rural areas. In addition, legislators who live in rural New York are in the minority and look to the Commission for assistance in fulfilling their responsibilities to constituents.

The Commission seeks to amplify the efforts of others who are interested in such policy areas as agriculture; business, economic development, and employment; education; government and management; environment, land use, and natural resources; transportation; housing, community facilities, and renewal; human relations and community life; and health care. It seeks to support lawmakers' efforts to preserve and enhance the state's vital rural resources through positive, decisive action.

In order to obtain a clearer picture of key problems and opportunities, the Commission invited people to informal discussions at a Statewide Rural Development Symposium, held October 5-7, 1983. It was the first such effort of its kind in the state and nation. Workshop participants undertook in-depth examinations of key policy areas the Commission believed were critical to the state's future rural development.

Symposium participants focused their discussions on ends, not means. In short, the objective was to identify key trends, strengths, weaknesses, goals, and opportunities for advancement; not to present solutions. Once a clearer picture of these findings is drawn, the next step will be to identify and propose the required, and hopefully innovative, recommendations. This task will be the subject of a second, follow-up symposium. Another unique feature of the first symposium was the opportunity it provided participants to share their thinking with colleagues from throughout the state over a three-day period of intensive dialogue.

The Commission is happy to announce that the objective of the Symposium was accomplished. Preliminary reports, based on the findings, are being issued as planned, in connection with a series of public hearings it is sponsoring across the state. The aim of these hearings is to obtain public commentary on the preliminary reports. Following these, a final symposium report will be prepared for submission to the Governor and the State Legislature. It will also serve as a resource report for the second statewide symposium on recommendations.

The Commission is comprised of five Assemblymen and five Senators with members appointed by the leader of each legislative branch. Senator Charles D. Cook (R.-Delaware, Sullivan, Greene, Schoharie, Ulster Counties) serves as Chairman. Assemblyman William L. Parment (D.-Chautauqua) is Vice Chairman and Senator L. Paul Kehoe (R.-Wayne, Ontario, Monroe) is Secretary. Members also include: Senator William T. Smith (R.-Steuben, Chemung, Schuyler, Yates, Senaca, Ontario); Senator Anthony M. Masiello (D.-Erie); Senator Thomas J. Bartosiewicz (D.-Kings); Assemblywoman Louise M. Slaughter (D.-Monroe, Wayne); Assemblyman Michael McNulty (D.-Albany, Rensselaer); Assemblyman John G.A. O'Neil (R.-St. Lawrence); and Assemblyman Richard Coombe (R.-Sullivan, Delaware, Chenango).

New York State Legislative Commission on Rural Resources □ Senator Charles D. Cook, Chairman

PREFACE

The Legislative Commission on Rural Resources publishes herein one of nine preliminary reports from the First Statewide Legislative Symposium on Rural Development held October 5-7, 1983. Not only was this effort a "first" for New York State, but for the nation as well.

The purpose of the Symposium, and the public hearings that will follow, is to catalog the strengths of rural New York, to define its problems, and to establish goals for the next two decades. Neither the Symposium nor the hearings will deal with strategy to develop our resources, address our problems, or accomplish our goals. That will be the thrust of a later Commission effort.

For the moment, it is our purpose to foster as objectively and exhaustively as possible, an understanding of where we are and where we want to go.

The Symposium reports in each subject area encompass the oral and written findings of the respective workshops, along with responses given at the Commission hearing where the reports were presented to State legislators for comment and discussion. Incorporated into this preliminary report is subsequent comment from group participants on points they felt needed amplification. Also appended to the published product is basic resource material intended to clarify points made in the reports.

I wish to personally congratulate the Symposium participants on the very sound and scholarly documents they have produced. However, their work is only preliminary to the final product which will be issued by the Commission once the hearing process is complete.

Those who read this report are urgently invited to participate in the public hearings that will be held throughout rural New York, or to submit comments in writing to the Commission. Your support, disagreement or commentary on specific points contained in the Symposium report will have a strong influence on the final report of the Commission.

Please do your part in helping to define sound public policy for rural New York during the next two decades.

Senator Charles D. Cook

Chairman

Legislative Commission on Rural Resources

INTRODUCTION

State and local efforts to keep air, water, and land clean in New York State and elsewhere across the nation have grown in intensity. Public concern over environmental quality, and protection of natural and cultural resources, public health and safety, has moved to the forefront over the past decade in new and increasingly strong ways.

Most recently, the vulnerability of our natural environment to man-made pollution has been made highly visible by events such as dioxin contamination in Missouri and landfills contaminated with toxic waste at Love Canal. Local citizens' groups, who are normally very permissive when it comes to the needs of industry, are now raising a crescendo of protest over the disposal of toxic wastes. Other forms of pollution also threaten us. Acid precipitation, for example, is insidious, and the evidence is strong that it damages some rural resources, although the extent of these effects is still unclear.

There is also a growing interest in water quality and supply. In the future, New York State's abundant water supply may be as important to its economic health as petroleum is today for certain other states. Because rural areas represent 75 percent of the state's land area and have relatively low population density, they have served as ready dumping grounds for a disproportionate share of New York's toxic and hazardous contaminants. These threaten public and private subsurface water supplies upon which the rural population is heavily dependent for its economic vitality, health, and general welfare.

Currently, New York State's vast forest resources, consisting of over 18 million acres or about 60 percent of the state's land area, are a resource base that is greatly underutilized in stimulating a dynamic economic base for certain rural localities. Also, the percentage of land in agriculture has declined

overall across the state during the past thirty years, even though the total acres harvested has increased somewhat during the past decade. In some instances the nearness of large metropolitan markets has probably contributed to increases in acreage devoted to high value cash crops, despite the pressure to be converted to other uses.

Symposium participants discussed these and other environmental, land use, and natural resource problems and opportunities in rural areas of New York State. Scenic beauty, air, water, and soil quality, farmland, forest, wildlife, and cultural resources, are major strengths that were identified.

A major goal suggested by Symposium participants is to encourage positive efforts that will protect ground, air, soil, and water from contamination by waste disposal. Moreover, they felt the timber and recreational potential of forests should be enhanced, as well as the state's scenic and cultural resources.

Clearly, a concerted undertaking by many diverse interests will be required in order to accomplish these aims. The momentum behind the population and economic shifts occurring across New York State, if sustained, will be a powerful influence to consider when shaping public policy responses. Continued monitoring of current trends by lawmakers, academic, government, and private interests is crucial. Information gathering and policy initiatives necessary to enhance natural resources management practices also must be encouraged.

A key public policy question is how state and local governments will achieve sound management of environmental, land, and natural resources as the state develops. A related issue is how public and private cooperation in these efforts will be enhanced, along with the realistic delegation and sharing of responsibilty. Such management efforts will make significant contributions to both the quality of life throughout the state and the economic vitality of rural New York.

WHERE RURAL NEW YORK IS TODAY

Trends

- Growth of population in rural areas during the 1970s; assumed to be continuing in the 1980s.
- Stabilization in viable agriculture and forest acreage following a long period of marginal agricultural land abandonment. Much of this marginal agricultural land has reverted to forest.
- Growth in urban land area and in rural land area affected by urban influences.
- Continued irreversible loss or deterioration of certain natural and economic resources, e.g., groundwater resources, prime or unique agricultural lands, recreational areas.
- Cumulative increase in amounts of chemical, fly ash, and solid wastes being preferentially stored in rural areas.
- Strong rural and urban desire for environmental quality continues to exist. Growth of "Not In My Backyard" syndrome of organized local opposition to large public projects, e.g., waste storage or treatment facilities in rural areas.
- Increase in demands on local officials to handle technical resource management problems.
- Increase in quality of surface water resources as a result of water pollution controls and private initiatives, although the rate of improvement has slowed.
- Diversification of energy sources.
- Increasing use of rural areas for recreation by those living in metropolitan areas. For example, in one rural county (Delaware) nonresident landowners increased from 15 to 50 percent of all landowners between 1950 and 1983.

Strengths and Assets

- Scenic beauty: a very important determinant of the quality of life in rural New York. It is also a key factor in the economic vitality of rural areas.
- Diversified land use and economy.
- Abundance and high quality of water; traditional sources of surface

water pollution largely under control.

- Soil base for agriculture and forestry.
- Widespread and diversified agriculture.
- Extensive areas of forest comprising over 18 million acres, or about 60 percent of the state.
- Resilience of ecosystems.
- Variety of both fresh and salt water commercial and recreational fisheries.
- Stabilization of fish and wildlife resources following long period of recovery from earlier abuses.
- Human resources - heightened public desire for environmental quality, cadre of professional resource managers, a great tradition of natural resource institutions.

Weaknesses and Problem Areas

- Toxic and hazardous waste disposal. Current generation of an estimated 1.36 million tons of hazardous waste exceeds current disposal capacity by an estimated 400,000 to 700,000 tons a year. In addition, there are approximately 750 sites identified to date in New York State where hazardous wastes have been dumped over the years.
- Potential for rural areas to be dumping grounds for metropolitan areas (e.g., about 40 percent of the hazardous waste sites identified in New York are located in rural counties, although only about 18 percent of New York's annual hazardous waste production is generated in these counties.)
- Rural growth continues to be largely undirected by local communities (e.g., the vast majority of rural localities have not enacted land use policies that would guide their overall development).
- History of urban orientation in planning for the state's development. The tendency has been to treat the rural environment, natural resources, and land use and rural interests as being of secondary consideration.
- Subsurface water threatened by toxic and hazardous contaminants. Inadequate understanding of the location, quality, and quantity of these water resources.
- The 1983 Clean Water goals of the Federal Clean Water Act have not been met due to delays in funding and approval of advanced waste treatment projects, acid precipitation, combined sewer overflows,

and toxic substances.

- Undermanaged public and private forest resources. Trees on many sites are mature or approaching maturity; poletimber and sawtimber acreage increased from under 7 million acres in 1968 to nearly 10.8 million acres in 1980. Most forests could be improved for a variety of uses by stand improvement or harvesting activities.

- Fish populations in sensitive regions of the Adirondacks continue to be reduced or depleted by stream acidification. In addition, although levels of mercury, PCB's, and DDT have declined overall in New York's freshwater fish, monitoring has been limited and several exceptions to these trends exist. Levels of some known contaminants, such as Mirex, are not declining. Furthermore, many other compounds that potentially pose a health risk have not been studied.

- Insufficient economic base in rural areas and funding at the state level to finance management of natural resources and environment.

- Insufficient information base for assessment, planning, and management of many of New York's natural resources (e.g., quality, extent, and location of groundwater resources; land use trends and changes in the land market; long-term effects of chronic, low-level air pollution on the productivity of rural New York's wealth of natural resources).

GOALS FOR RURAL NEW YORK

- Adequately protect ground, air, soil, and water from contamination caused by disposal of solid, hazardous, and toxic wastes. Address generation, treatment, storage, and disposal of wastes and consider rural community needs.

    - Encourage the proper handling and recycling of wastes, and stimulate markets for those wastes which can be recycled.

    - Address deficiencies in hazardous waste treatment capacity.

    - Ensure safe storage of hazardous and non-recyclable wastes where storage is presently the only means to handle these.

    - Encourage industry to reduce hazardous waste production through substitution of less hazardous or non-hazardous material in manufacturing processes, and changing actual manufacturing processes.

- Enhance and protect the quantity and quality of surface and subsurface water resources.

    - More aggressively protect subsurface waters from contamination, since aquifers are virtually impossible to purify once contaminated. Groundwater is the source of drinking water for

an estimated 34 percent of New York's population, and for an estimated 61 percent of the population in rural counties of the state.

- Continue to clean up surface waters, recognizing that it is seldom possible to realize pristine conditions. Address rural community sewage treatment, taking into consideration federal funding cutbacks and the need for technologies appropriate for rural localities.

- Enhance and protect the land resource base of rural New York for long-term productive utilization.

  - Discourage unclean, wasteful use of prime and unique land resources. For example, discourage conversion to urban development of prime and unique agricultural lands of state and local importance by fostering a viable agricultural economy.

  - Develop the timber and recreational potential of forests while assuring and protecting their long-range sustained productivity and health.

  - Reduce soil erosion state-wide; expand soil moisture control programs for agricultural land.

- Develop energy sources in both environmentally and economically sound manner. Ensure adequate, affordable, dependable supplies of energy by emphasizing

  - energy conservation,

  - renewable energy sources,

  - in-state sources of energy,

  - diversity of energy sources.

- Protect fish and wildlife resources; encourage their enhanced use.

  - Arrive at a balance between wildlife production and damage to agriculture and forest regeneration caused by wildlife.

  - Encourage continued development of recreational and commercial fisheries by addressing problems related to chemical contamination.

- Enhance, protect, and manage scenic resources in New York State.

PUBLIC POLICY QUESTIONS TO BE ADDRESSED

- How do we achieve comprehensive management of farmland, forest, water, air, fish, and wildlife resources as the state develops? How do we develop a long-range strategy that will:

  - reinforce the strengths and mitigate the weaknesses in New York's environment in keeping with a clear, focused vision of what that rural environment should be;

  - identify agricultural lands, scenic areas, and other resources of local, regional, or state-wide importance in both an economic and qualitative sense?

  - achieve continuity in natural resource management;

  - realize the potentials of undermanaged resources;

  - shift from a reactive stance to an anticipatory one?

- How may public and private cooperation in natural resource management and land use be fostered and enhanced?

- How do we more fully achieve regional, intergovernmental cooperation and logical delegations of responsibility for resource management?

- How do we ensure that local governments have the technical base to manage resources over which they have jurisdiction? How can the capabilities of local land and resource managers be more fully developed?

- How can we improve the information base upon which resource management and policy making is based?

- How can the desire to stabilize agricultural acreage be realized in the face of constant land development pressures?

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APPENDIX

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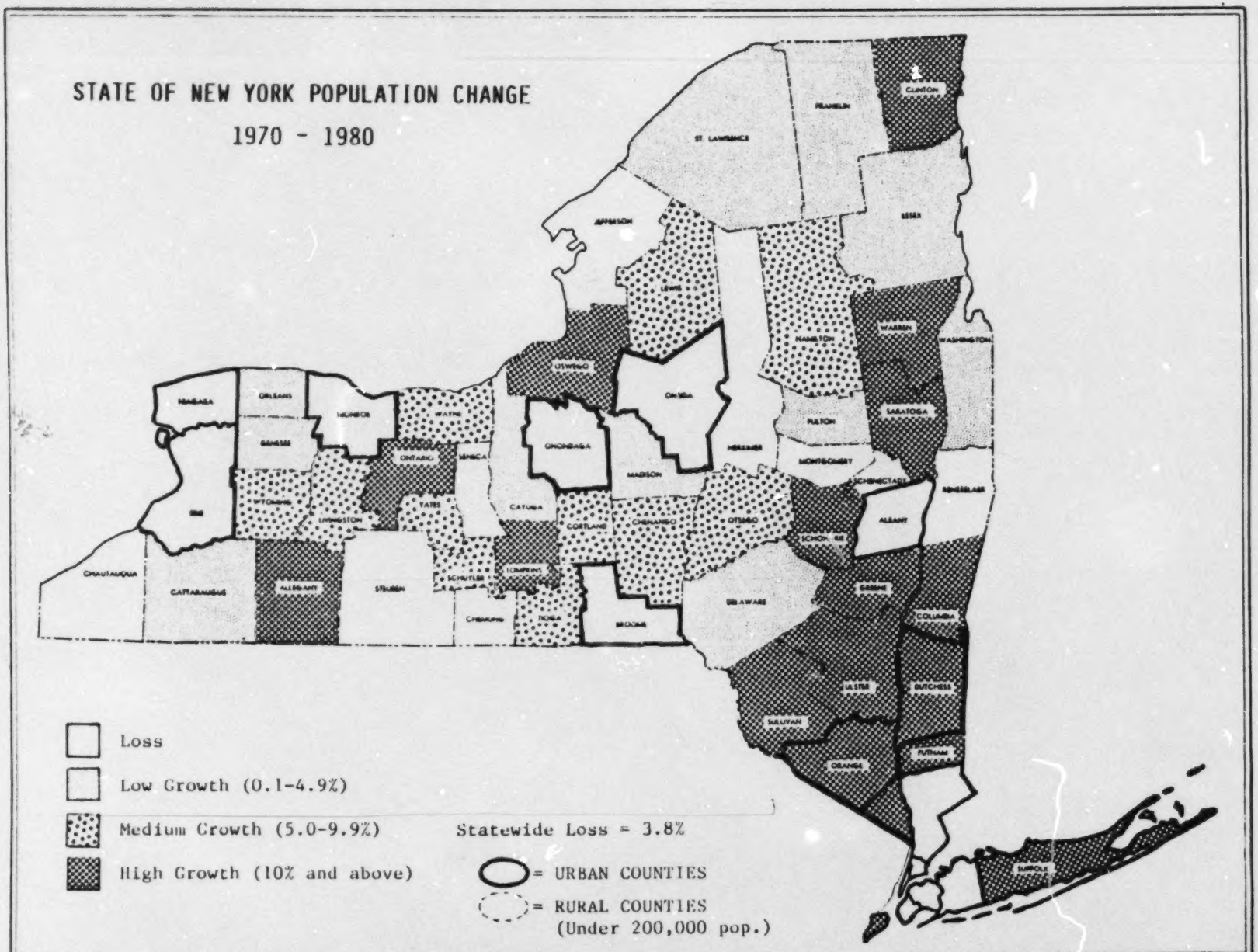
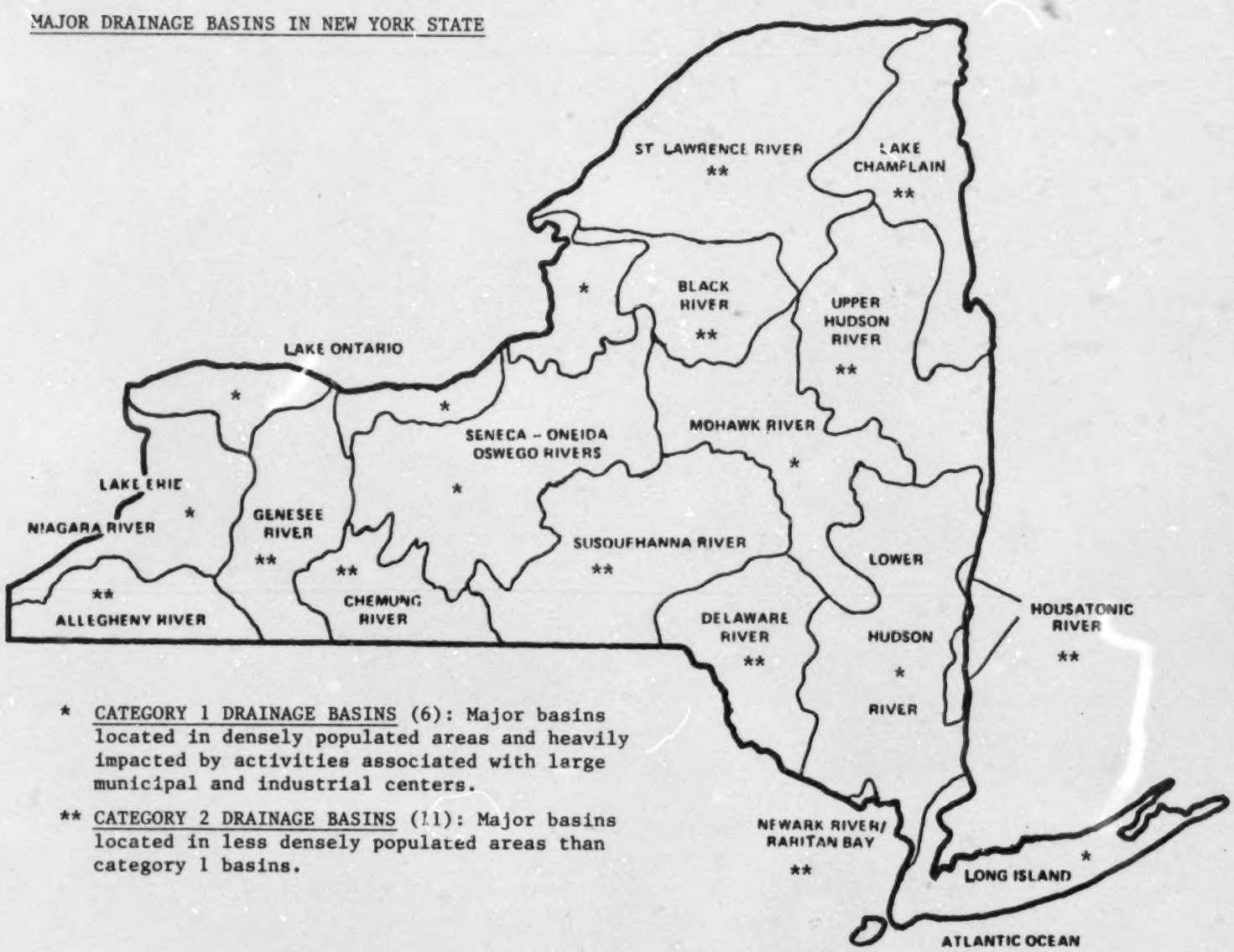


15 Source: U.S. Bureau of the Census, 1980 Census of Population and Housing. 16

MAJOR DRAINAGE BASINS IN NEW YORK STATE



* CATEGORY 1 DRAINAGE BASINS (6): Major basins located in densely populated areas and heavily impacted by activities associated with large municipal and industrial centers.

** CATEGORY 2 DRAINAGE BASINS (11): Major basins located in less densely populated areas than category 1 basins.

Adapted from: New York Department of Environmental Conservation, New York Water Quality 1982.

SUMMARY OF BASIN WATER QUALITY PROBLEMS/PRIORITIES BY MAJOR POLLUTANT CATEGORIES

(See map on previous page)

MAJOR BASIN	ORGANIC O_2 DEMAND	INFECTIOUS AGENTS	NUTRIENTS	TOXICS	THERMAL	SED/MINERAL	OIL/HAZARDOUS SUBSTANCES
Lake Erie/Niagara	M	H	H	H	L	M/H	M
Allegheny River	M	M	H	M	L	M	H
Lake Ontario/Minor Trib.	M	M	H/M	H/M	M	M	M
Genesee River	H	H	H	M	L	H	M
Chemung River	H	H	H/M	L	M	H	L
Susquehanna River	H	H	M	L	L	H/M	L
Seneca Oneida Oswego	H	H	H	H/M	M	M	M
Black River	M	M	M	L	L	M	L
St. Lawrence River	L	M	M	M	M	M/L	H
Lake Champlain	M	M/L	M	M	M/L	H	H/M
Upper Hudson River	H	M	H/M	H	M/L	M/H	M/L
Mohawk River	H	H	H/M	M/H	M/L	H	H
Lower Hudson River	H	H	M/H	H	M/H	M/H	H
Delaware River	M	M	H	L	L	M	L
Newark River Raritan Bay	H	M	L	L	L	L	L
Housatonic River	L	M	L	L	L	L	L
Atlantic Ocean/Long Island Sound	H	H	H	H	M	M	H

H – High Priority relative to other problems in the Basin
M – Medium
L - Low

Source: New York Department of Environmental Conservation, New York Water Quality 1982.

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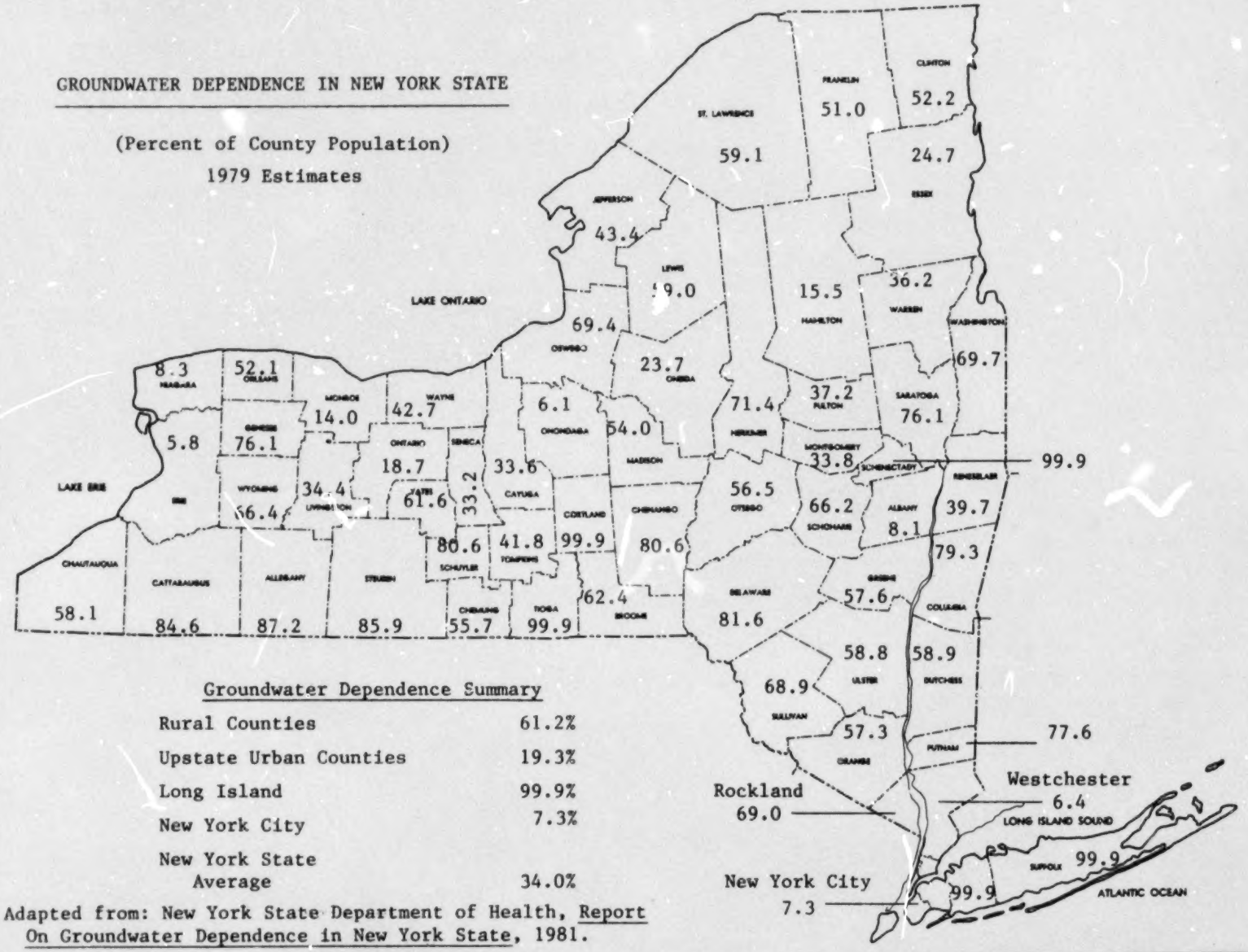
GROUNDWATER DEPENDENCE IN NEW YORK STATE

(Percent of County Population)
1979 Estimates

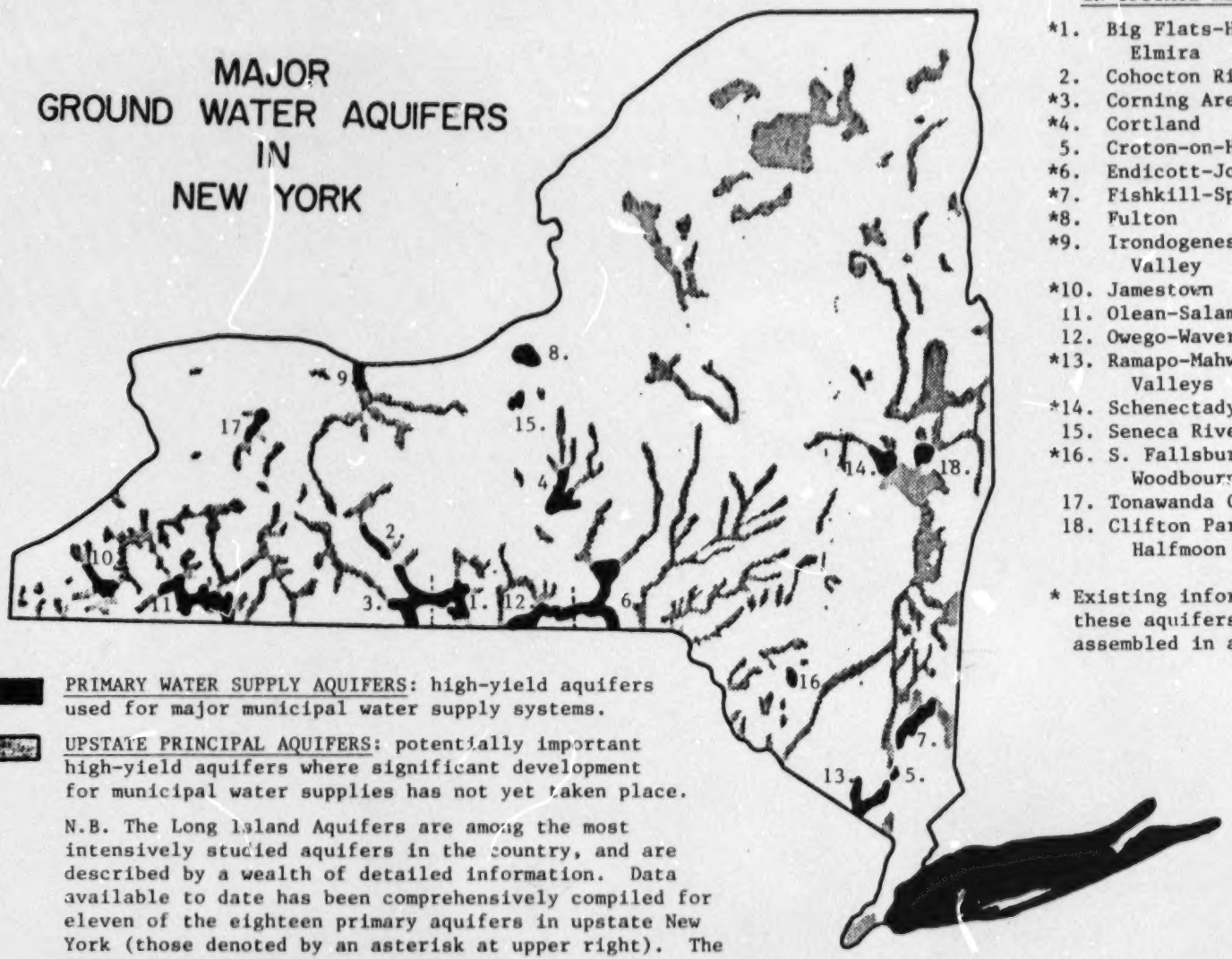


Groundwater Dependence Summary

Rural Counties	61.2%
Upstate Urban Counties	19.3%
Long Island	99.9%
New York City	7.3%
New York State Average	34.0%

Adapted from: New York State Department of Health, Report On Groundwater Dependence in New York State, 1981.

MAJOR GROUND WATER AQUIFERS IN NEW YORK



PRIMARY WATER SUPPLY AQUIFERS: high-yield aquifers used for major municipal water supply systems.

UPSTATE PRINCIPAL AQUIFERS: potentially important high-yield aquifers where significant development for municipal water supplies has not yet taken place.

N.B. The Long Island Aquifers are among the most intensively studied aquifers in the country, and are described by a wealth of detailed information. Data available to date has been comprehensively compiled for eleven of the eighteen primary aquifers in upstate New York (those denoted by an asterisk at upper right). The Clifton Park aquifer is presently under study. Information about the remainder of the primary aquifers and all of the principal aquifers is scattered and generally inadequate.

PRIMARY AQUIFERS IN UPSTATE NEW YORK

*1. Big Flats-Horseheads-Elmira
2. Cohocton River
*3. Corning Area
*4. Cortland
5. Croton-on-Hudson
*6. Endicott-Johnson City
*7. Fishkill-Sprout Creek
*8. Fulton
*9. Irondogenesee Buried Valley
*10. Jamestown
11. Olean-Salamanca
12. Owego-Waverly
*13. Ramapo-Mahwah River Valleys
*14. Schenectady
15. Seneca River
*16. S. Fallsburgh-Woodbourne
17. Tonawanda Creek
18. Clifton Park-Halfmoon

* Existing information on these aquifers has been assembled in an atlas.

Adapted from: Halton, Dan and Tom Male, "Groundwater Program in the Making", NYSDEC Water Bulletin - August, 1982 and N.Y. Department of Health, Report On Groundwater Dependence in New York State, 1981.

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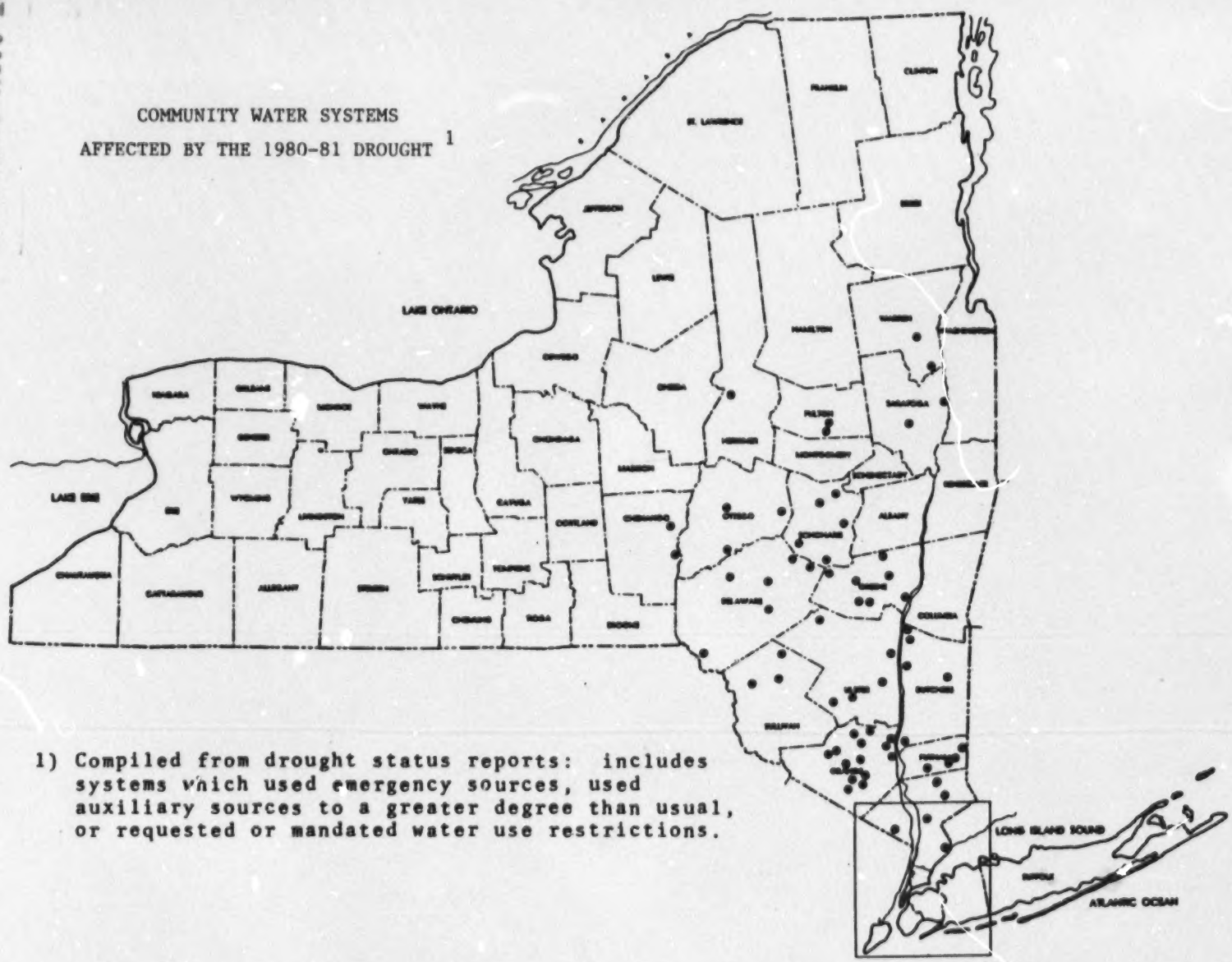
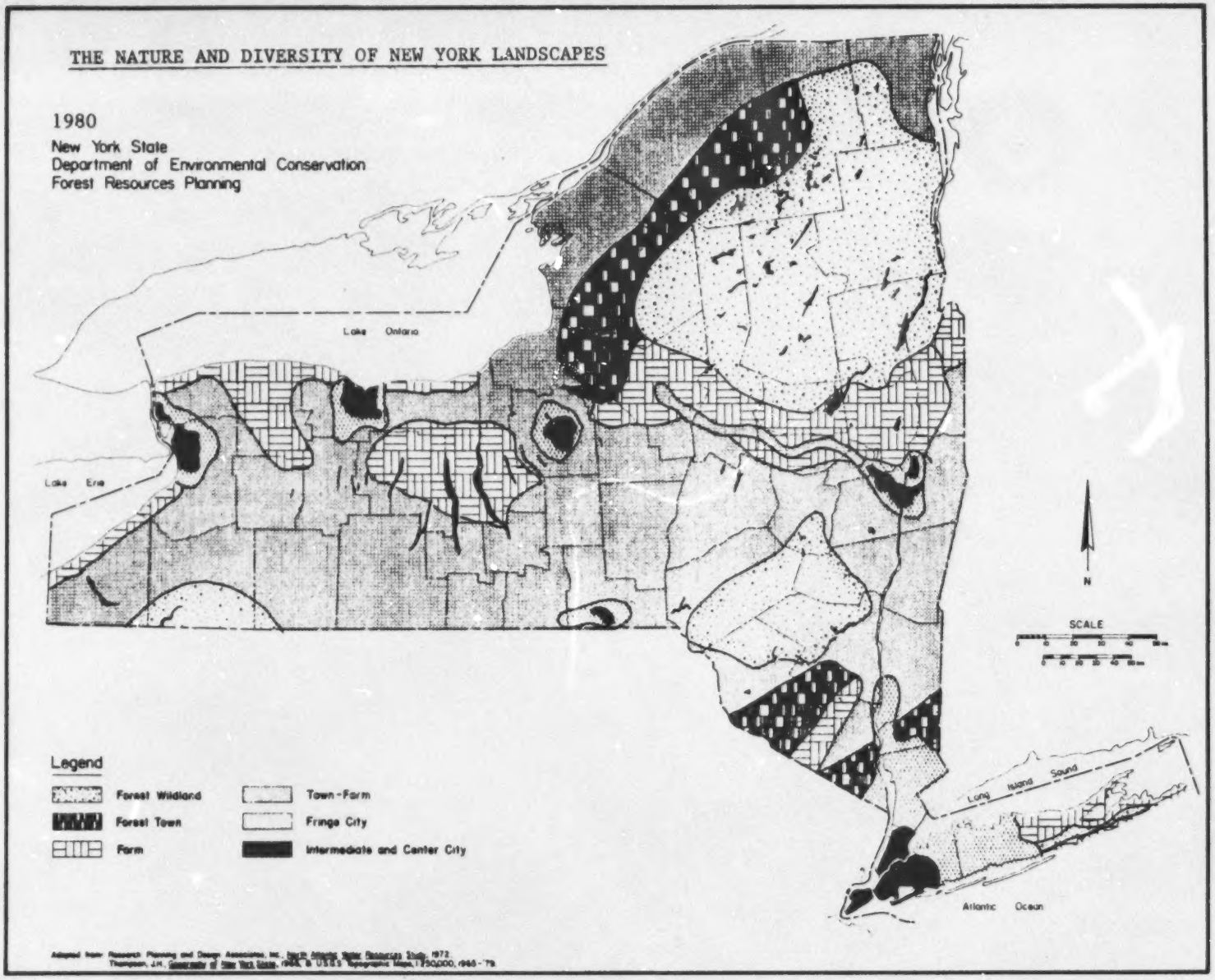
COMMUNITY WATER SYSTEMS
AFFECTED BY THE 1980-81 DROUGHT [1]



1) Compiled from drought status reports: includes systems which used emergency sources, used auxiliary sources to a greater degree than usual, or requested or mandated water use restrictions.

Source: New York State Department of Health, Summary Report on Drought Planning by Community Water Systems, 1982.



Source: New York Department of Environmental Conservation, The Forest Resources of New York: A Summary Assessment, 1981.

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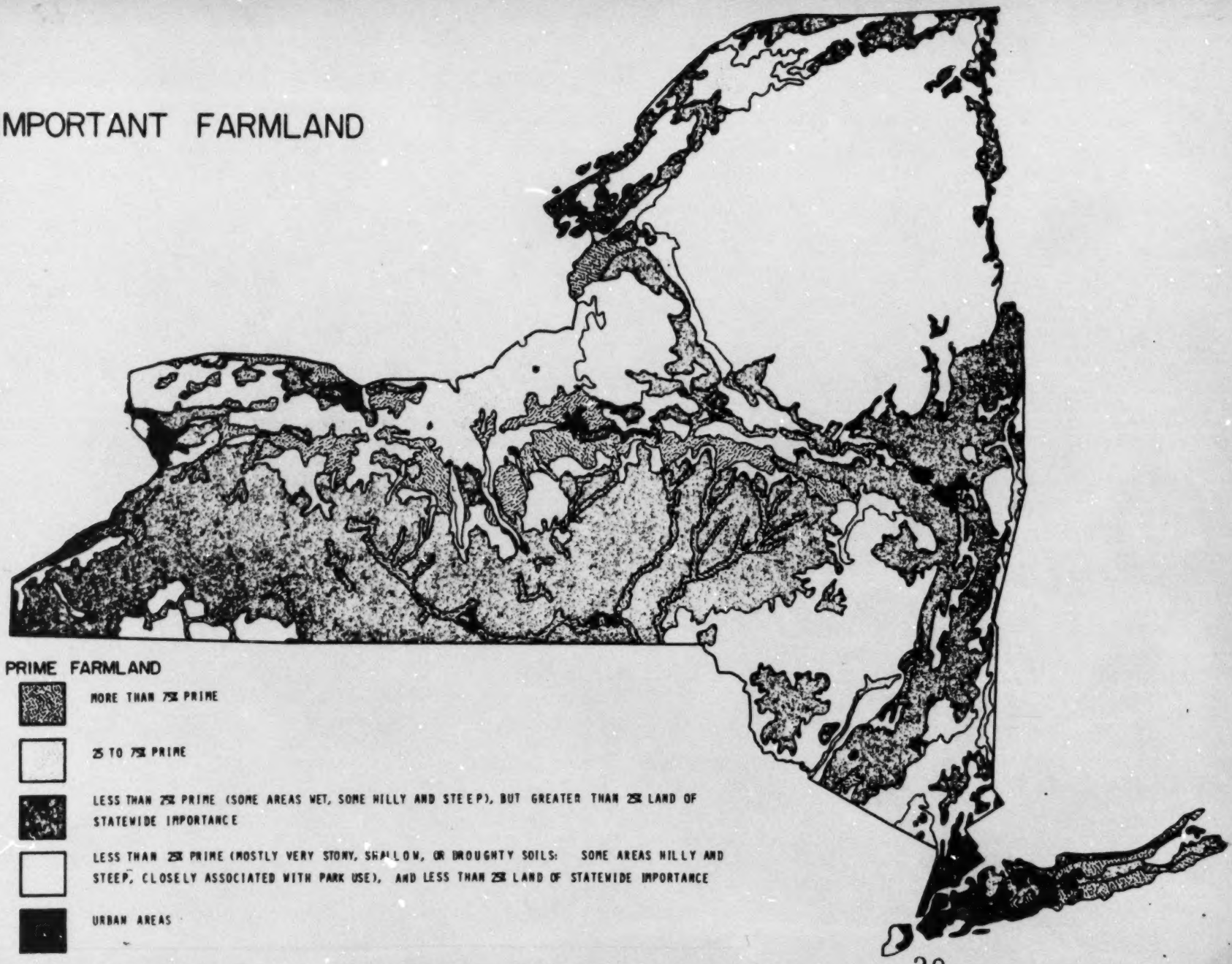
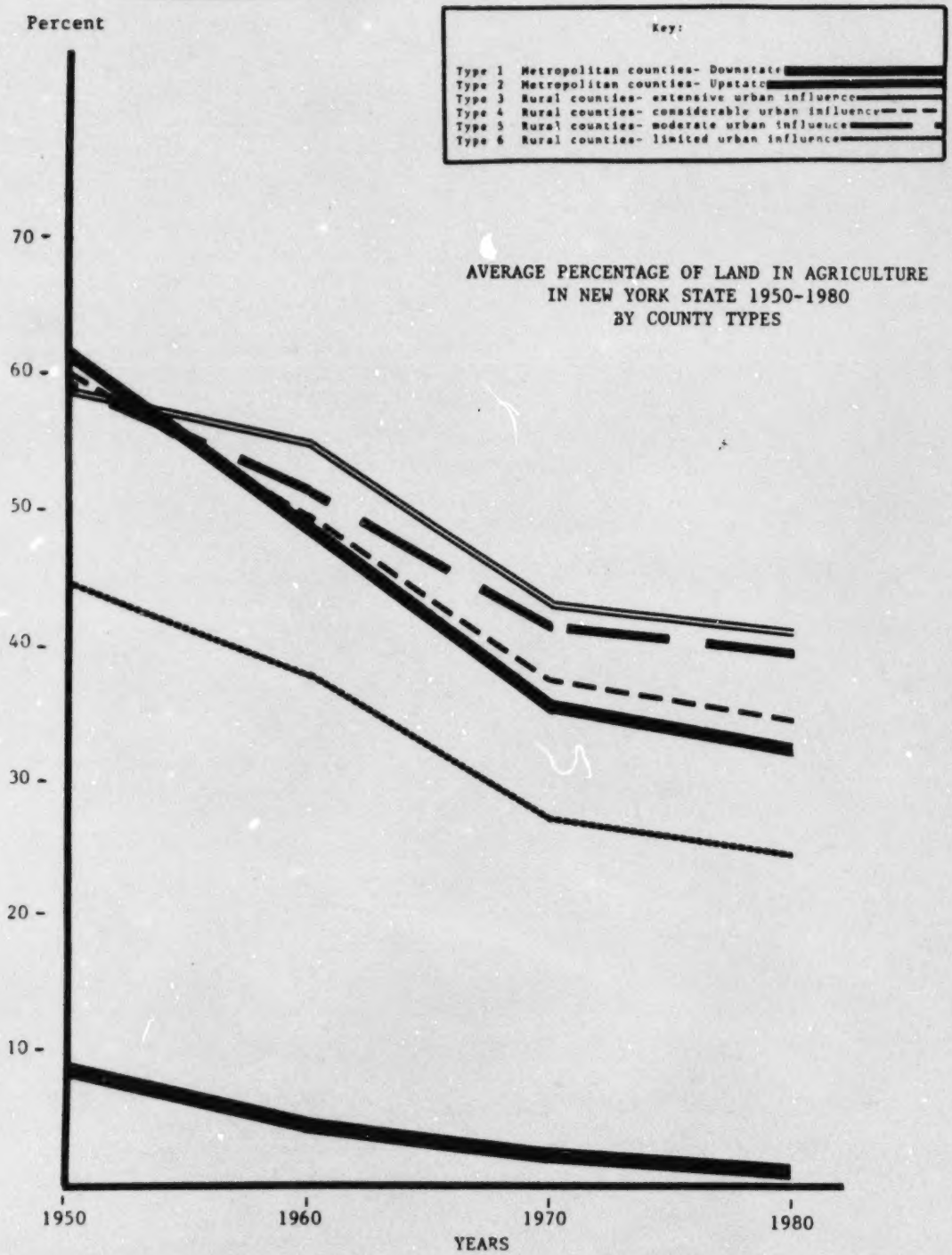
IMPORTANT FARMLAND



PRIME FARMLAND

- MORE THAN 75% PRIME
- 25 TO 75% PRIME
- LESS THAN 25% PRIME (SOME AREAS WET, SOME HILLY AND STEEP), BUT GREATER THAN 25% LAND OF STATEWIDE IMPORTANCE
- LESS THAN 25% PRIME (MOSTLY VERY STONY, SHALLOW, OR DROUGHTY SOILS: SOME AREAS HILLY AND STEEP, CLOSELY ASSOCIATED WITH PARK USE), AND LESS THAN 25% LAND OF STATEWIDE IMPORTANCE
- URBAN AREAS

ADAPTED FROM IMPORTANT FARMLAND OF NEW YORK MAP, 1979,
U.S.D.A., SOIL CONSERVATION SERVICE



AVERAGE PERCENTAGE OF LAND IN AGRICULTURE
IN NEW YORK STATE 1950-1980
BY COUNTY TYPES

Source: Eberts, Paul. Trends in Basic Social Indicators for Rural and Metropolitan Counties in New York State 1950-1980, New York State Legislative Commission on Rural Resources, 1983.

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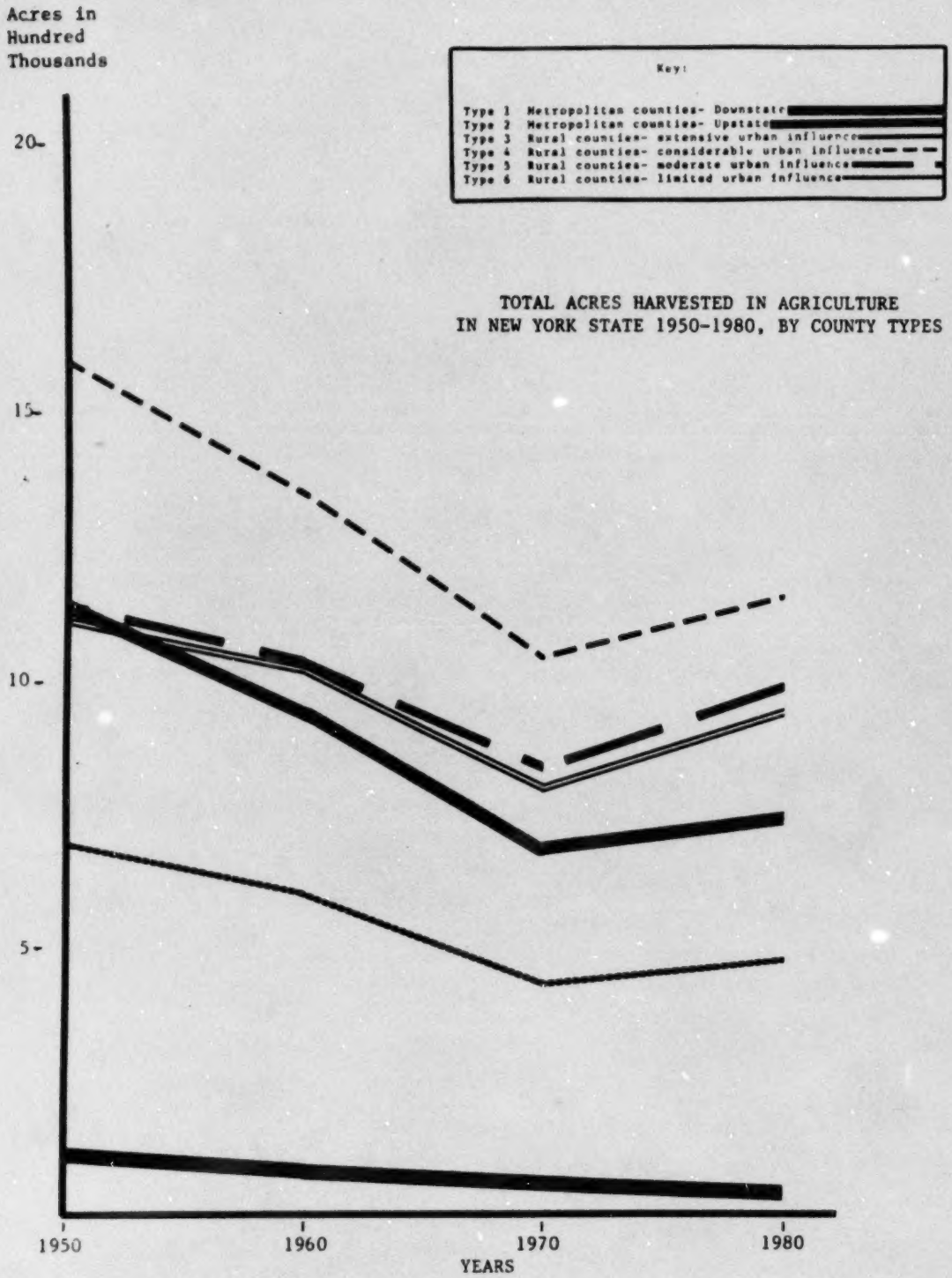

TOTAL ACRES HARVESTED IN AGRICULTURE
IN NEW YORK STATE 1950-1980, BY COUNTY TYPES

Source: Eberts, Paul. Trends in Basic Social Indicators for Rural and Metropolitan Counties in New York State 1950-1980, New York State Legislative Commission on Rural Resources, 1983.

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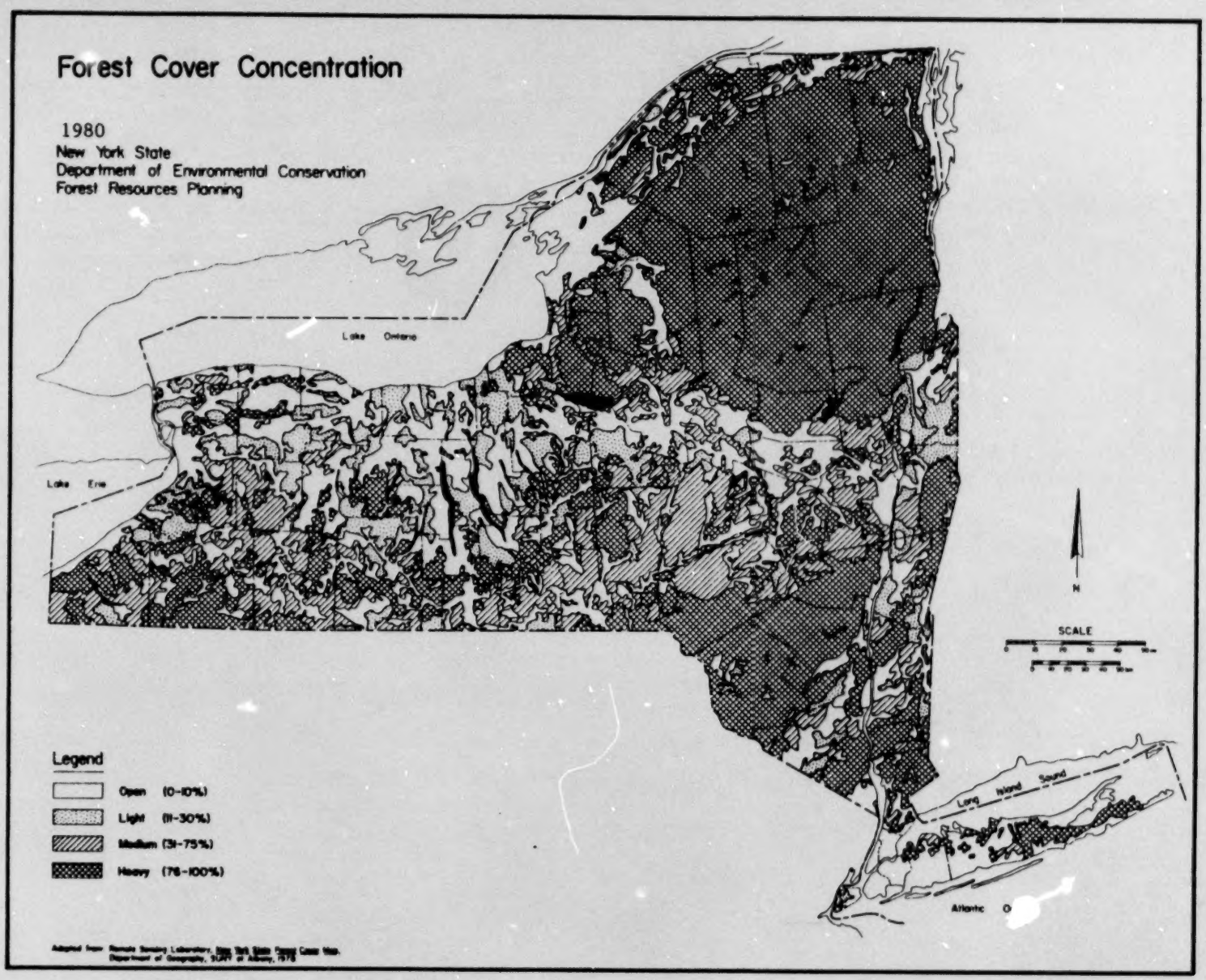

Source: New York Department of Environmental Conservation, The Forest Resources of New York: A Summary Assessment, 1981.

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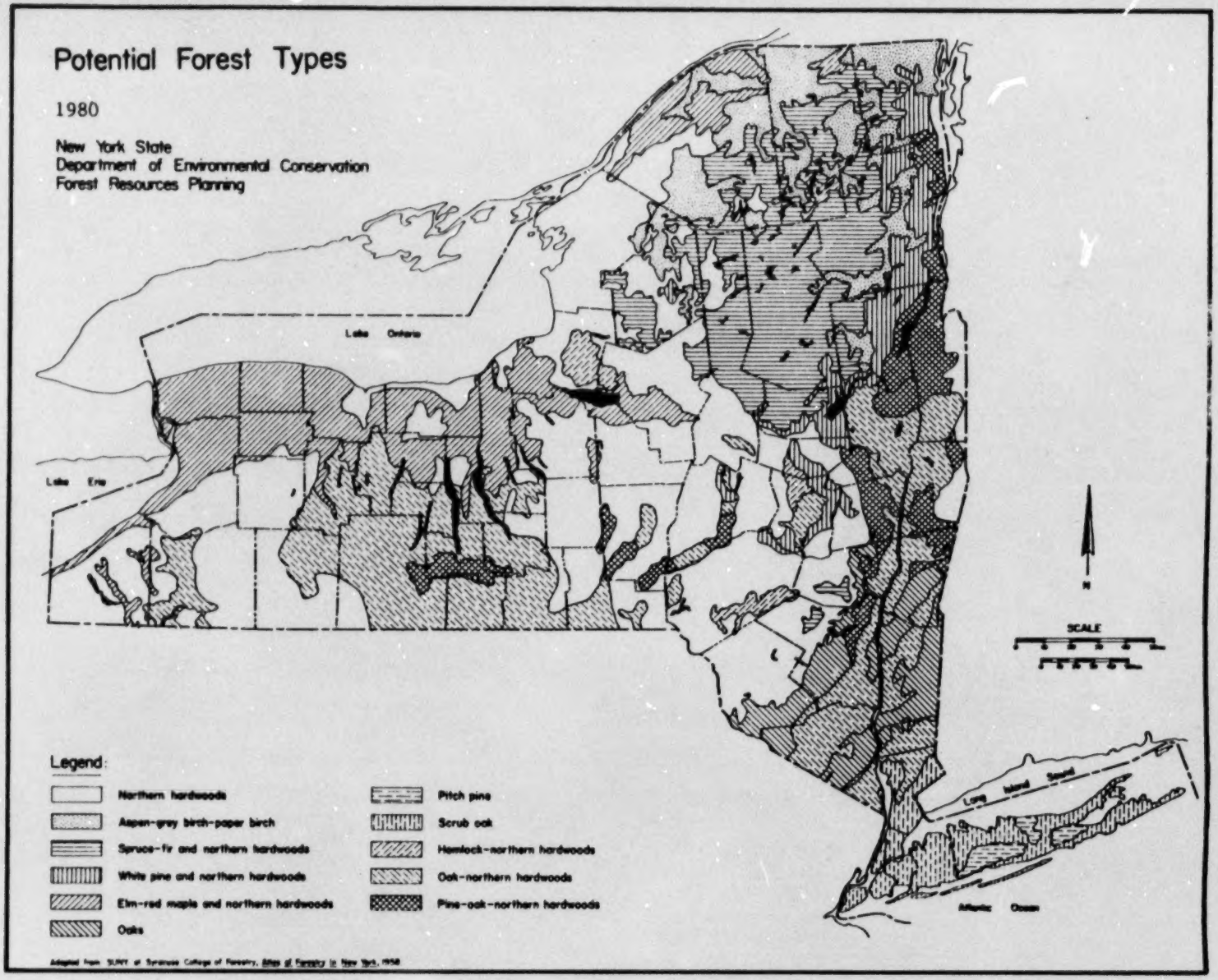
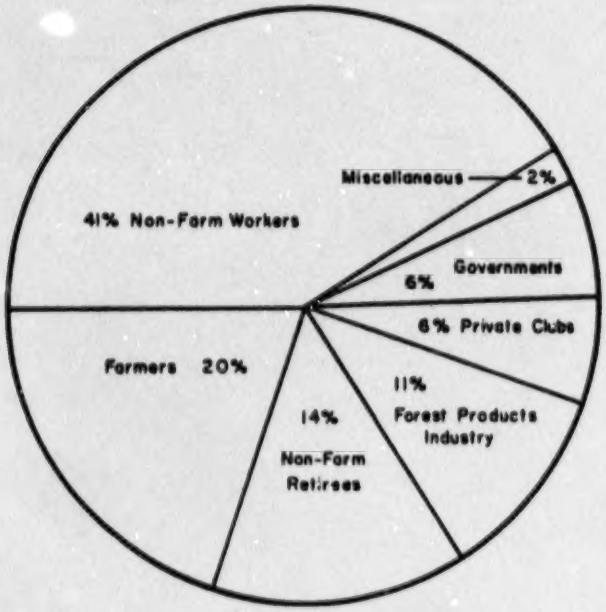
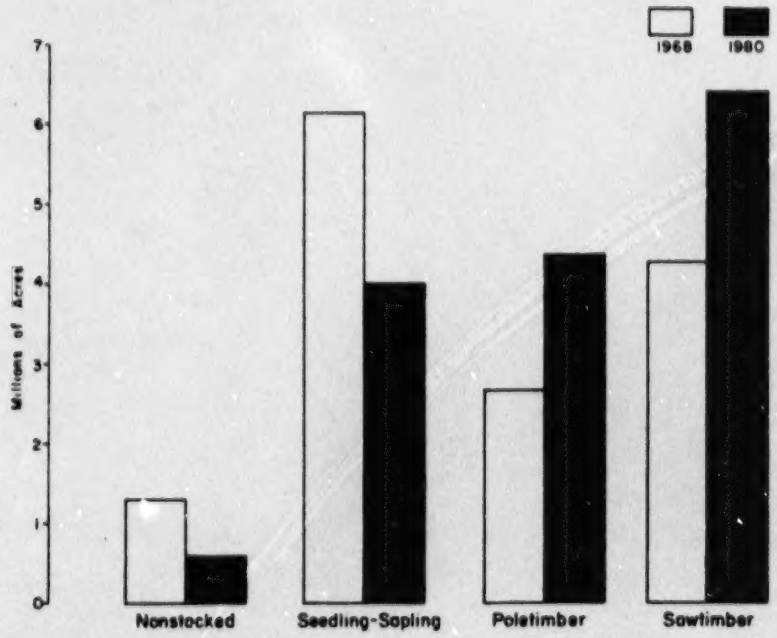


Source: New York Department of Environmental Conservation, The Forest Resources of New York: A Summary Assessment, 1981.

COMMERCIAL FOREST OWNERSHIP IN NEW YORK



GROWTH IN EXTENT AND MATURITY OF NEW YORK'S COMMERCIAL FORESTS



Area of Commercial Forest Land, By Stand Size Class

Source: New York Department of Environmental Conservation, The Forest Resources of New York: A Summary Assessment, 1981

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RELATIVE IMPORTANCE OF FUELS USED
IN NEW YORK STATE AND THE UNITED STATES
1982

FUEL USED	NEW YORK	UNITED STATES
Petroleum	52.6%	39.3%
Natural Gas	21.9	26.3
Coal	9.4	23.8
Nuclear	4.4	4.9
Hydro	7.7	5.7
Electricity Imports	2.6	NA
Renewables	1.4	NA
	100.0%	100.0%

ORIGIN OF FUELS USED IN NEW YORK STATE
1981

FUEL USED	PRODUCED IN NEW YORK (TBTU)	PERCENT OF NYS CONSUMPTION	PRODUCED IN U.S. OUTSIDE NYS	PERCENT OF NYS CONSUMPTION	FOREIGN (TBTU)	PERCENT OF NYS CONSUMPTION
Petroleum	4.8	0.1%	802.7	22.6%	1061.8	29.9%
Natural Gas	19.0	0.5	751.8	21.2	7.8	0.2
Coal	0.0	0.0	332.6	9.4	0.0	0.0
Nuclear	155.4	4.4	-	-	-	-
Hydro	272.6	7.7	-	-	-	-
Electricity Imports	-	-	-	-	93.6	2.6
Renewables	51.4	1.4	0.0	0.0	0.0	0.0
TOTALS	503.2	14.1%	1887.1	53.2%	1155.4	32.7%

Adapted from data in: New York State Energy Office, **NYS Energy Master Plan**, 1983 and **Annual Energy Review 1960-1981**, 1982.